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DEPARTMENT OF ENERGY

10 CFR Part 430

EERE-2017-BT-TP-0024

RIN 1904-AE01

Energy Conservation Program: Test Procedure for Microwave Ovens

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Final rule.

SUMMARY: In this final rule, DOE is amending its test procedure for microwave oven standby mode and off mode to provide additional specifications for the test conditions related to clock displays and network functions. DOE is not prescribing an active mode test procedure for microwave ovens at this time.

DATES: The effective date of this rule is **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. The final rule changes will be mandatory for product testing starting [**INSERT DATE 180 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. The incorporation by reference of certain other publications listed in this rulemaking was approved by the Director of the Federal Register on December 17, 2012.

ADDRESSES: The docket, which includes *Federal Register* notices, public meeting attendee lists and transcripts, comments, and other supporting documents/materials, is available for review at *www.regulations.gov*. All documents in the docket are listed in the *www.regulations.gov* index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

A link to the docket web page can be found at *www.regulations.gov/docket?D=EERE-2017-BT-TP-0024*. The docket web page

contains instructions on how to access all documents, including public comments, in the docket.

For further information on how to review the docket contact the Appliance and Equipment Standards Program staff at (202) 287-1445 or by e-mail: *ApplianceStandardsQuestions@ee.doe.gov*.

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SUPPLEMENTARY INFORMATION: DOE maintains the following previously approved incorporation by reference in 10 CFR part 430:

International Electrotechnical Commission Standard 62301 (Second Edition), ("IEC 62301), "Household electrical appliances – Measurement of standby power," (Edition 2.0 2011-01).

Copies of the second edition of IEC 62301 can be obtained from the International Electrotechnical Commission webstore or by going to *www.webstore.iec.ch/home*.

See section IV.N of this document for a discussion of this standard.

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I. Authority and Background

Microwave ovens are included in the list of "covered products" for which DOE is authorized to establish and amend energy conservation standards and test procedures. (42 U.S.C. 6292(a)(10)) DOE's energy conservation standards for microwave ovens are currently prescribed at title 10 of the Code of Federal Regulations ("CFR") 430.32(j). DOE's test procedures for microwave ovens are prescribed at 10 CFR 430.23(i) and appendix I to subpart B of 10 CFR part 430 ("appendix I"). The following sections discuss DOE's authority to establish test procedures for microwave ovens and relevant background information regarding DOE's consideration of test procedures for this product.

A. Authority

The Energy Policy and Conservation Act, as amended ("EPCA"),[1] authorizes DOE to regulate the energy efficiency of a number of consumer products and certain

[1] All references to EPCA in this document refer to the statute as amended through the Infrastructure Investment and Jobs Act, Public Law 117-58 (Nov. 15, 2021).

industrial equipment. (42 U.S.C. 6291–6317) Title III, Part B[2] of EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles, which sets forth a variety of provisions designed to improve energy efficiency. These products include microwave ovens, the subject of this document. (42 U.S.C. 6292(a)(10))

The energy conservation program under EPCA consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of EPCA specifically include definitions (42 U.S.C. 6291), test procedures (42 U.S.C. 6293), labeling provisions (42 U.S.C. 6294), energy conservation standards (42 U.S.C. 6295), and the authority to require information and reports from manufacturers (42 U.S.C. 6296).

The testing requirements consist of test procedures that manufacturers of covered products must use as the basis for (1) certifying to DOE that their products comply with the applicable energy conservation standards adopted under EPCA (42 U.S.C. 6295(s)), and (2) making representations about the efficiency of those products (42 U.S.C. 6293(c)). Similarly, DOE must use these test procedures to determine whether the products comply with any relevant standards promulgated under EPCA. (42 U.S.C. 6295(s))

Federal energy efficiency requirements for covered products established under EPCA generally supersede State laws and regulations concerning energy conservation testing, labeling, and standards. (42 U.S.C. 6297) DOE may, however, grant waivers of Federal preemption for particular State laws or regulations, in accordance with the procedures and other provisions of EPCA. (42 U.S.C. 6297(d))

Under 42 U.S.C. 6293, EPCA sets forth the criteria and procedures DOE must follow when prescribing or amending test procedures for covered products. EPCA provides that any test procedures prescribed or amended under this section shall be

[2] For editorial reasons, upon codification in the U.S. Code, Part B was redesignated Part A.

reasonably designed to produce test results which measure energy efficiency, energy use or estimated annual operating cost of a covered product during a representative average use cycle or period of use (as determined by the Secretary) and shall not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3))

In addition, EPCA requires that DOE amend its test procedures for all covered products to integrate measures of standby mode and off mode energy consumption into the overall energy efficiency, energy consumption, or other energy descriptor, unless the current test procedure already incorporates the standby mode and off mode energy consumption, or if such integration is technically infeasible. (42 U.S.C. 6295(gg)(2)(A)) If an integrated test procedure is technically infeasible, DOE must prescribe separate standby mode and off mode energy use test procedures for the covered product, if a separate test is technically feasible. (*Id.*) Any such amendment must consider the most current versions of the International Electrotechnical Commission ("IEC") Standard 62301[3] and IEC Standard 62087[4] as applicable. (42 U.S.C. 6295(gg)(2)(A))

If DOE determines that a test procedure amendment is warranted, it must publish a proposed test procedure and offer the public an opportunity to present oral and written comments on it. (42 U.S.C. 6293(b)(2))

EPCA also requires that, at least once every 7 years, DOE evaluate test procedures for each type of covered product, including microwave ovens, to determine whether amended test procedures would more accurately or fully comply with the requirements for the test procedures to not be unduly burdensome to conduct and be reasonably designed to produce test results that reflect energy efficiency, energy use, and estimated operating costs during a representative average use cycle or period of use. (42 U.S.C. 6293(b)(1)(A)) If the Secretary determines, on his own behalf or in response to a

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[3] IEC 62301, *Household electrical appliances—Measurement of standby power* (Edition 2.0, 2011-01).
[4] IEC 62087, *Methods of measurement for the power consumption of audio, video, and related equipment* (Edition 3.0, 2011-04).

petition by any interested person, that a test procedure should be prescribed or amended, the Secretary shall promptly publish in the *Federal Register* proposed test procedures and afford interested persons an opportunity to present oral and written data, views, and arguments with respect to such procedures. The comment period on a proposed rule to amend a test procedure shall be at least 60 days and may not exceed 270 days. In prescribing or amending a test procedure, the Secretary shall take into account such information as the Secretary determines relevant to such procedure, including technological developments relating to energy use or energy efficiency of the type (or class) of covered products involved. (42 U.S.C. 6293(b)(2)) If DOE determines that test procedure revisions are not appropriate, DOE must publish its determination not to amend the test procedures. DOE is publishing this final rule in satisfaction of the 7-year review requirement specified in EPCA. (42 U.S.C. 6293(b)(1)(A))

B. Background

DOE's test procedure for microwave ovens is codified at appendix I, titled "Uniform Test Method for Measuring the Energy Consumption of Cooking Products." The microwave oven test procedure measures energy use in standby mode and off mode but does not include an active mode test.

On January 18, 2018, DOE published a request for information ("January 2018 RFI") describing the requirements for the microwave oven test procedure and requesting information on certain topics related to microwave oven displays and clocks, and whether amendments were needed to address microwave ovens with network functions, which may affect the standby mode energy consumption. DOE also discussed the previous active mode test procedure proposal from a NOPR published February 4, 2013 ("February 2013 NOPR"; 78 FR 7940) and requested information on the feasibility of pursuing active cooking mode and fan-only mode test methods for microwave-only ovens and convection microwave ovens. 83 FR 2566.

On November 14, 2019, DOE published a NOPR ("November 2019 NOPR"), in which it responded to comments received in response to the January 2018 RFI and proposed to amend the standby mode test procedure by specifying that connected units are to be tested with network functions disabled; and that units with clock displays are to be tested with the display on, unless the product powers down the clock display automatically and provides no available setting to allow the consumer to prevent the clock display from powering down automatically. 84 FR 61836, 61839–61840. DOE also initially determined that an active mode test that produced repeatable and representative results without being unduly burdensome was not available, and therefore did not propose to incorporate an active mode test. 84 FR 61836, 61841. DOE held a public meeting via a webinar to present the proposed amendments and provide stakeholders an opportunity to comment.[5]

DOE received comments in response to the November 2019 NOPR from the interested parties listed in Table I.1.

Table I.1 Written Comments Received in Response to November 2019 NOPR

Organization(s)	**Reference in this NOPR**	**Organization Type**
Association of Home Appliance Manufacturers	AHAM	Trade Association
(Pacific Gas and Electric Company, San Diego Gas and Electric, and Southern California Edison; collectively, the California Investor-Owned Utilities	CA IOUs	Utility Association
Natural Resources Defense Council, Appliance Standards Awareness Project, American Council for an Energy-Efficient Economy, National Consumer Law Center, Consumer Federation of America, Northwest Energy Efficiency Alliance	NOPR Joint Commenters	Efficiency Organizations
Whirlpool Corporation	Whirlpool	Manufacturer

[5] The transcript of the public meeting is available at *www.regulations.gov/document?D=EERE-2017-BT-TP-0024-0011*.

A parenthetical reference at the end of a comment quotation or paraphrase provides the location of the item in the public record.[6]

On August 3, 2021, DOE published a supplemental notice of proposed rulemaking ("August 2021 SNOPR"), in which DOE revised its November 2019 NOPR proposal for testing microwave ovens with a connected function and specified explicitly that if means for disabling the network functions are not provided, the microwave oven will be tested with the network function in the factory default setting or in the as-shipped condition. 86 FR 41759, 41762.

DOE received comments in response to the August 2021 SNOPR from the interested parties listed in Table I.2.

Table I.2 Written Comments Received in Response to August 2021 SNOPR

Organization(s)	Reference in this NOPR	Organization Type
Association of Home Appliance Manufacturers	AHAM	Trade Association
Pacific Gas and Electric Company, San Diego Gas and Electric, and Southern California Edison; collectively, the California Investor-Owned Utilities	CA IOUs	Utility Association
Appliance Standards Awareness Project, American Council for an Energy-Efficient Economy, Consumer Federation of America, National Consumer Law Center, Northwest Energy Efficiency Alliance	SNOPR Joint Commenters	Efficiency Organizations
Underwriters Laboratories	UL	Efficiency Organization

II. Synopsis of the Final Rule

In this final rule, DOE amends appendix I as follows:

- Adds the introductory note; and

[6] The parenthetical reference provides a reference for information located in the docket of DOE's rulemaking to amend test procedures for microwave ovens. (Docket No. EERE-2017-BT-TP-0024, which is maintained at *www.regulations.gov*). The references are arranged as follows: (commenter name, comment docket ID number, page of that document).

- Amends the current microwave oven standby mode test procedure by adding specifications for the status of network functions and clock displays during testing.

The adopted amendments are summarized in Table II.1 compared to the current test procedure, as well as the reason for the adopted change.

Table II.1 Summary of Changes in the Amended Test Procedure

Current DOE Test Procedure	Amended Test Procedure	Attribution
No introductory note to communicate effective compliance dates.	Introductory note provides instructions on compliance dates	Improve ease of compliance
Referenced paragraph 5.2 of IEC 62301 (Second Edition), which specifies that the product must be tested in accordance with manufacturer's instructions or using default settings if no instructions are available. If there are no instructions and if default settings are not indicated, then the microwave oven is tested as supplied.	Specifies that the microwave oven must be tested with the clock display on, regardless of the manufacturer's instruction or default setting or supplied setting, unless the clock display powers down automatically and the product provides no setting that allows the consumer to prevent such automatic power down.	To improve representativeness.
Did not include instructions for or require the measurement of energy use associated with connected functionality, but may have captured the energy use associated with connected functionality if such features were enabled by default or if manufacturer instructions specified that the connected features be turned on.	Specifies that if present, connected functionality must be disabled per manufacturer's instructions. If it cannot be disabled by the end-user, then the basic model must be tested in the factory 'default' setting or in the as-shipped condition.	To prevent, when possible, unintended measurement of energy use associated with connected functionality, and thereby ensure reproducibility and comparability of test results.

DOE has determined, as discussed in section III.H of this document, that of the amendments described in section III and adopted in this document, the direction requiring connected functions to be disabled will result in a lowered energy use for microwave ovens that ship with connected functions enabled by default but includes ways for the user to turn it off. DOE did not identify any basic model that will require retesting and recertification as a result of DOE's adoption of the amendment. DOE has also determined that the test procedure will not be unduly burdensome to conduct. Discussion of DOE's actions are addressed in detail in section III of this document.

The effective date for the amended test procedure adopted in this final rule is 30 days after publication of this document in the *Federal Register*. Representations of

energy use or energy efficiency must be based on testing in accordance with the amended test procedure beginning 180 days after the publication of this final rule.

III. Discussion

In this test procedure final rule, DOE is adopting some of the proposed changes to appendix I from the November 2019 NOPR and the August 2021 SNOPR. The test procedure established in this final rule improves the representativeness and repeatability for microwave oven standby mode and off mode testing, which is discussed further in section III.C of this document. As discussed in the November 2019 NOPR (84 FR 61836, 61840–61841) and section III.B of this document, DOE is not establishing an active mode test procedure for microwave ovens in this final rule.

A. Scope of Applicability

This rulemaking applies to microwave ovens, which DOE defines as a category of cooking products that is a household cooking appliance consisting of a compartment designed to cook or heat food by means of microwave energy, including microwave ovens with or without thermal elements designed for surface browning of food and convection microwave ovens. This includes any microwave oven(s) component of a combined cooking product. 10 CFR 430.2. DOE is not amending the scope of the microwave oven test procedure.

B. Updates to Industry Standards

The test procedure for microwave ovens at appendix I incorporates by reference certain provisions of the first and second editions of IEC 62301[7] regarding test conditions, equipment, setup, and methods for measuring standby mode and off mode power consumption. In the November 2019 NOPR, DOE requested comments on the degree to which the DOE test procedure should consider and be harmonized further with

[7] The average power sampling method used for non-stable standby load in the second edition of IEC 62301 would conflict with DOE's current average power approach, which is referenced from the first edition of IEC 62301.

IEC 62301 (Second Edition). DOE also requested comments on whether and to what degree DOE should consider and harmonize the Federal test procedure for microwaves with other industry standards such as IEC 60705 Ed. 4.2. 84 FR 61844, 61845.

In response to the November 2019 NOPR, AHAM reiterated its opinion that the current level of IEC standards harmonization is appropriate, and DOE should not require the clocks and displays to be on during testing or incorporate active mode test provisions. (AHAM, No. 15 at pp. 4–5) Whirlpool expressed its support of AHAM's comments and agrees that DOE should not incorporate IEC 60705 Ed. 4.2 active mode test methods. (Whirlpool, No. 16 at p. 1)

DOE further reviewed IEC 62301 and did not identify any additional provisions in the industry test procedure that would be appropriate for or improve the DOE test procedure. As such, DOE maintains its current level of harmonization with IEC 62301.

Additionally, for the reasons discussed in section III.B of this document, DOE is not establishing an active mode test procedure for microwave ovens. Consideration of harmonization with IEC 60705 Ed. 4.2 is therefore unwarranted at this time.

C. Active Mode Test Methods

In the November 2019 NOPR, DOE initially determined that incorporating an active mode test procedure for microwave ovens based on IEC Standard 60705 "Household microwave ovens—Methods for measuring performance" Edition 4.2 ("IEC 60705 Ed. 4.2") would be unduly burdensome, stating that the expected increase in testing cost resulting from increased testing time and the potential need for new laboratory equipment and facility upgrades would not be justified, especially because the circumstances that previously led DOE to determine that an active mode energy

conservation standard for microwave oven would not be technologically feasible and economically justified[8] have not changed substantially. 84 FR 61836, 61841.

In response to the November 2019 NOPR, AHAM expressed its support of DOE's proposed decision to not include active mode energy testing for microwave ovens, stating it would be unduly burdensome to conduct with minimal benefit to energy savings. AHAM estimated a five to six times increase in testing time as well as a significant amount of additional cost to acquire new equipment and update facilities. AHAM further commented that because no technology options can yet reduce microwave ovens' active mode energy use, and no other countries require an active mode test procedure, DOE should not amend the test procedure at this time. (AHAM, No. 15 at pp. 2–3)[9] Whirlpool expressed its support of AHAM's comments by stating that it agrees that DOE should not incorporate IEC 60705 Ed. 4.2 active mode test methods. (Whirlpool, No. 16 at p. 1)

The CA IOUs and the NOPR Joint Commenters support establishment of an active mode test procedure. The CA IOUs referred to a 2014 study[10] that found 80 percent of microwave ovens' annual unit energy consumption occurs in active mode. (CA IOUs, No. 14 at p. 2) The NOPR Joint Commenters asserted, based in part on data from DOE, that 90 percent of a microwave oven's annual energy use is consumed in active mode.[11] (NOPR Joint Commenters, No. 13 at p. 2) The NOPR Joint Commenters

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[8] In a final rule published on April 8, 2009, DOE concluded that an active mode energy conservation standard for microwave ovens would not be economically justified. In particular, the benefits of energy savings would be outweighed by the large decrease in the net present value of consumer impacts, the economic burden on many consumers, and the large capital conversion costs that could result in a reduction in industry net present value for manufacturers. 74 FR 16040, 16087.

[9] A notation in the form "AHAM, No. 15 at pp. 2–3" identifies a written comment: (1) Made AHAM; (2) recorded in document number 15 that is filed in the docket of this test procedure rulemaking (Docket No. EERE-2017-BT-TP-0024, available for review at *www.regulations.gov*); and (3) which appears on pages 2–3 of document number 15.

[10] Teddy Kisch, Arshak Zakarian, and Nate Dewart. "Literature Review of Miscellaneous Energy Loads (MELs) in Residential Buildings." (CALMAC Study ID: SCE0360.01) Available at *www.calmac.org/publications/MEL_Literature_Review_6_10_14.pdf*.

[11] In a prior investigation of an active mode test procedure DOE estimated that approximately 75 percent of the annual energy use of microwaves is the result of active mode use. *See* 78 FR 7940, 7950. DOE

stated that that the least energy efficient model consumes 32 percent more energy to heat test loads when compared to the most efficient model. (*Id.*) The CA IOUs and NOPR Joint Commenters recommended that DOE consider adopting the active mode test procedure prescribed in IEC 60705 Ed. 4.2, with the CA IOUs stating that DOE's current test procedure does not measure the representative energy efficiency of models with new features such as "inverter microwaves." (CA IOUs, No. 14 at p. 2) The NOPR Joint Commenters recommended DOE further investigate the IEC 60705 Ed. 4.2 test procedure, by measuring testing time, estimating test burden, and exploring potential modifications to determine the associated testing burden. (NOPR Joint Commenters, No. 13 at pp. 2–3) The NOPR Joint Commenters commented that while test burden can be a concern, DOE's responsibility is not to minimize all possible testing burdens irrespective of all other factors. (NOPR Joint Commenters, No. 13 at p. 3)

As an initial matter, DOE will adopt industry test standards as DOE test procedures for covered products and equipment, unless such methodology would be unduly burdensome to conduct or would not produce test results that reflect the energy efficiency, energy use, water use (as specified in EPCA) or estimated operating costs of that equipment during a representative average use cycle. 10 CFR part 430 subpart C appendix A section 8(c) (*see also* 42 U.S.C. 6293(b)(3)). As explained in the following paragraphs, DOE has determined that adoption of IEC 60705 Ed. 4.2 would not meet the statutory requirements.

The CA IOUs suggested DOE consider inverter technology. DOE considered both the circumstances under which this technology can be more efficient and data DOE obtained from testing inverter-based microwaves under the 2006 version of IEC 60705. The NOPR Joint Commenters suggested DOE consider the newer 4.2 edition of IEC

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understands the value presented by NOPR Joint Commenters is based on the current microwave-only and countertop microwave oven standby energy standard, which is different from the estimated 2.7 W average standby power for all microwave ovens, as used by DOE's original analysis from 2013.

60705. After comparing the 2006 and 4.2 editions and considering the data and the circumstances under which inverter technology can improve efficiency, DOE declines to adopt an active mode test procedure. Inverter power supplies have the potential to improve cooking efficiency when microwave ovens operate at less than 100-percent power. However, IEC 60705 Ed. 4.2 would not capture any such efficiency because it measures cooking efficiencies only at full power. DOE tested inverter-based microwave ovens according to the 2006 version of IEC 60705 and found there was no correlation to allow DOE to draw a conclusion about their efficiencies compared to non-inverter units at full power.[12] (See chapter 5 of the 2008 Technical Support Document) DOE's test results from IEC 60705-2006 remain valid because the testing methodologies used in IEC 60705-2006 and IEC 60705 Ed. 4.2 are substantively the same. DOE has thoroughly analyzed IEC 60705 Ed. 4.2, and found the changes since the 2006 version were mostly editorial, with additional minor edits to measurement requirements and ambient condition tolerances.

DOE declines to incorporate IEC 60705 Ed. 4.2 as an active mode test procedure because doing so would not capture the potential energy efficiency improvements of the inverter technology at less than 100-percent power loading conditions. Another obstacle to measuring energy usage at less than full load is a lack of data about consumer usage. To develop a test procedure that measures active mode energy efficiency during a representative average use cycle or period of use that includes operation at less than full load (*i.e.*, operation at less than maximum power), DOE would need consumer usage data on microwave use at less than full load to define a representative average use cycle. DOE neither has nor is aware of such data. DOE does not adopt a test procedure for

[12] U.S. Department of Energy, Notice of Proposed Rulemaking Technical Support Document (TSD): Residential Dishwashers, Dehumidifiers, Cooking Products, and Commercial Clothes Washers (Oct. 2008) Chapter 5, Section 5.6.1.3. This document is available at: *www.regulations.gov/document?D=EERE-2006-STD-0127-0070*.

measuring active mode energy consumption in this rulemaking for two reasons. First, IEC 60705 Ed. 4.2 does not capture the potential energy efficiency improvements of inverter technology. Second, there is no data to develop a test procedure that would provide representative measurements of such potential improvements. Further, DOE maintains its determination that requiring manufacturers to use an active mode measurement for microwave ovens, with its costs from increased testing time and additional laboratory equipment, would be unduly burdensome.

D. Standby Mode and Off Mode Test Methods

1. Displays and Clocks

DOE proposed in the November 2019 NOPR that for microwave ovens that provide consumers the ability to turn the clock on or off, the unit must be configured such that the clock display remains on at all times during testing, unless the clock powers down automatically and the product provides no available setting for the consumer to prevent the automatic powering-down of the clock. 84 FR 61836, 61842. The proposed amendment to configure the clock and for the clock to remain on would apply regardless of manufacturer instruction, the default setting, or the supplied setting (as specified in paragraph 5.2 of IEC 62301 (Second Edition), which is referenced in section 2.1.1[13] of appendix I for setup instructions). In proposing this amendment, DOE cited a prior energy conservation standard proposed rule in which manufacturers stated that consumers expect that a microwave oven equipped with a display should show clock time while in standby mode. *Id.*, referencing 73 FR 62034, 62080 (Oct. 17, 2008). DOE initially determined that this proposed additional direction would improve the representativeness and reproducibility of the test results. *Id*. In the November 2019 NOPR, DOE requested comment on this proposal to require keeping the clock display on during testing,

[13] Since the publication of the November 2019 NOPR, DOE published the August 18, 2020 test procedure withdrawal rule for cooking products which, among other things, renumbered section 2.1.3 to 2.1.1 in appendix I. 85 FR 50757. DOE updated its reference accordingly in the August 2021 SNOPR.

including whether this update would result in additional test burden. DOE also requested comment on consumer habits regarding the use of clock displays that can optionally be turned on or off. *Id*.

AHAM commented that it does not support DOE's proposal to keep the clock display on during testing, stating that doing so is unnecessary, unjustified, and not consistent with international test procedures. (AHAM, No. 15 at p. 2) AHAM further commented that requiring the clock to be left on during standby testing would deviate from the international approach, with no evidence to support that the change is necessary. AHAM stated that the current test is repeatable, reproducible, representative, not unduly burdensome to conduct, and that DOE should not deviate from the existing test procedure without supporting data. (AHAM, No. 15 at p. 3)

As noted, EPCA requires DOE to measure the energy consumption of microwave ovens during a representative average use cycle. (42 U.S.C. 6293(b)(3)) As stated, previous manufacturer comments indicated that consumers expect a microwave oven equipped with a display to display the clock time while in standby mode. 73 FR 62034, 62080 (Oct. 17, 2008). DOE has found no evidence, nor did commenters provide any such evidence, that this consumer expectation has changed since then. Accordingly, requiring the clock display to be powered on during standby testing produces test results that are more representative of a microwave's average use cycle than the prior test procedure. For these reasons, DOE amends section 2.1.1 of appendix I to specify that the clock display must be on during testing, regardless of manufacturer's instructions or default setting or supplied setting. The clock display must remain on during testing, unless the clock display powers down automatically with no option for the consumer to override this function.

DOE notes that microwave ovens with displays may be categorized into two types: those whose standby power consumption varies as a function of the displayed time

and those whose standby power does not. This amendment will not affect the repeatability or reproducibility of the test procedure for either type.

For microwave ovens whose standby power varies as a function of displayed time, this amendment will not impact the repeatability or reproducibility of the test procedure because the current test procedure already requires the display clock to be on. Specifically, section 3.1.1.1 of appendix I already requires that for such units, the clock time be set to 3:23 at the end of the stabilization period as specified in Section 5, Paragraph 5.3 of IEC 62301 (First Edition) with power consumption data to be recorded using the average power approach described in Section 5, Paragraph 5.3.2(a) of IEC 62301 (First Edition), but with a single test period of 10 minutes after an additional stabilization period until the clock time reaches 3:33. DOE concluded from its own testing that this approach captures the power consumption of such units in a manner that is repeatable and representative of actual use. 76 FR 12825, 12839.

For microwave ovens whose standby power consumption does not vary as a function of the time displayed, the instruction for testing microwave ovens with the display and clock on simply requires that the clock be turned on at the beginning of the test with no further amendments required to the test method. DOE has not received any indication, either in the past or in response to the 2019 NOPR that compliance with these instructions may impact the repeatability and reproducibility of the test procedure or be overly burdensome.

To analyze potential retest and recertification concerns due to this amendment, DOE identified 35 microwave ovens from various manufacturers that could potentially be tested and certified with their clock displays turned off during standby mode. DOE found that 31 of the units (approximately ninety percent) would have to be certified with the clock display on. These units either included instructions for how to turn on the clock display or the display is already on by default. The amendment to test with the display on

would not apply to the remaining four units because they contained auto-power down features that could not be disabled. Based on this review, DOE determines microwave ovens with displays that are explicitly required to be on during testing under the amended test procedure must already be tested with them on.

2. Connected Functions

DOE is aware of microwave ovens on the market with "connected" (*i.e.*, network) functionality that use either Bluetooth® or Wi-Fi to communicate with other cooking products, such as a range, or with a consumer, either via voice commands or a smartphone or other device. Such a feature could consume additional energy use, depending on how it is implemented in the product's controls.

Under DOE's current test procedure,[14] section 2.1.1 of appendix I specified that a microwave oven must be installed in accordance with paragraph 5.2 of IEC 62301 (Second Edition), which states that the product must be prepared and set up in accordance with manufacturer's instructions; and if no instructions are available, then the unit must be tested using factory or default settings, or, in case such settings are not indicated, the product must be tested as supplied. As such, even though appendix I did not include instructions for or require the measurement of any energy use associated with connected functionality, the current test procedure may have unintentionally captured the energy use associated with connected functionality through the way it measures standby mode and off mode power. Specifically, section 2 of appendix I could measure that energy use if such features were enabled by default or if manufacturers' instructions specified that the connected features be turned on. However, the current test procedure would not measure that energy use if manufacturers did not provide such an instruction and the product shipped with connected features disabled.

[14] The term 'current test procedure' refers to the version of appendix I as modified by the August 18, 2020 test procedure withdrawal rule for cooking products. 85 FR 50757.

In the November 2019 NOPR, DOE proposed to add an explicit requirement to test microwave oven standby mode and off mode energy consumption with connected features disabled. DOE also proposed that if a connected function cannot be disabled per manufacturer's instructions, the energy use from such connected functions need not be reported to DOE nor used in determining compliance with the applicable energy conservation standards. 84 FR 61836, 61843. DOE also recognized that alternative approaches could be considered to address the issue of microwaves that do not provide a means for disabling connected functionality. One such approach DOE suggested was to require the energy use of the network function to be measured and subtracted from the standby mode energy measurement. *Id.* However, DOE initially determined that it did not have enough information on products with connected features to design a representative and appropriate test procedure because these products are relatively new, with limited market presence and field use. *Id.* DOE also stated that for a unit that is connected to the internet, the energy use of the product could depend on the speed and configuration of an internet connection. In addition, based on a review of manufacturer websites and user manuals of various appliances, as well as testing conducted at DOE and third-party laboratories, connected features are implemented in a variety of ways across different brands. *Id.* Therefore, DOE initially concluded that it did not have enough information to establish a representative configuration for testing connected functions repeatably. DOE requested comment on the proposed requirements for testing microwave ovens with connected functions disabled, including the example alternative approach. *Id*.

DOE received comments from interested parties on this proposal, which DOE addressed in the August 2021 SNOPR. Based on consideration of these comments, DOE proposed in the August 2021 SNOPR a modified approach for testing microwave ovens with connected functions that cannot be disabled. Specifically, DOE proposed in the

August 2021 SNOPR that if network functions cannot be disabled, then the microwave oven is tested with the network function in the factory default setting or in the as-shipped condition. 86 FR 41759, 41762. DOE requested comment on this revised proposal. *Id*.

AHAM expressed support for the revised proposal that if manufacturers do not provide instructions on how to disable connected functions, connected functions should be tested in either the default setup condition, or as-shipped condition. However, AHAM suggested that use of the word "disable" may imply that power consumption by the components that provide connected functionality must be zero, and that a low but non-zero value may lead to confusion and inaccurate testing. AHAM stated that IEC 62301 uses the term "low power mode" and that DOE should use this term instead to capture scenarios where components that provide connected functions have been deactivated but continue to consume relatively low but non-zero amount of power and contribute towards standby power measurements. (AHAM, No. 18 at p. 2) AHAM further noted that because connected functions are still evolving, IEC's low power mode definition would allow both flexibility and clarity for DOE's microwave oven test procedure. (*Id*.)

UL also supported DOE's revised proposal for testing microwave ovens with connected functions and suggested that DOE specifically refer to the UL 923[15] standard, which UL stated contains requirements that user instructions be provided to allow the consumer to identify the means to enable and disable smart-enabled operation at the appliance, including an illustration depicting the location of the actuating means with information on how to enable or disable the function. (UL, No. 21 at p. 1)

The SNOPR Joint Commenters, however, noted that although DOE's modified proposal would be useful, during actual use these functions are not likely to be disabled if they were shipped in an enabled state. The SNOPR Joint Commenters stated that under

[15] UL 923, *Microwave Cooking Appliances*, Edition 7, available at *https://standardscatalog.ul.com/ProductDetail.aspx?productId=UL923*.

these conditions, testing microwave ovens with these functions disabled would be unrepresentative. They urged DOE to require that all microwave ovens be tested in the as-shipped condition, which they asserted would make the measurements more representative. The SNOPR Joint Commenters further suggested that DOE investigate ways to measure the power consumption of connected functions, asserting that these functions are becoming more prevalent and that capturing connected functions' power consumption can better inform consumers as well as incentivize manufacturers. (SNOPR Joint Commenters, No. 19 at pp. 1-2)

The CA IOUs suggested that DOE test all microwave ovens in the as-shipped condition without modification, to prevent wasteful energy use. The CA IOUs also suggested that DOE consider adding disclosure in the public certification requirements of whether connected functions are turned off during testing. They stated that making this information public would provide several benefits, through providing useful data for future rulemakings, promoting better purchasing decisions, and allowing consumers to make informed decisions about the energy performance of models relative to one another. (CA IOUs, No. 20 at pp. 1-2)

Regarding AHAM's comment on use of the term "disabled", DOE does not agree that the term "disable" implies that the power consumption must be zero. The wording implemented in this final rule specifies that "If the microwave oven can communicate through a network (*e.g.*, Bluetooth® or internet connection), disable the network function, if it is possible to disable it by means provided in the manufacturer's user manual, for the duration of testing." No implication regarding the resulting power consumption is intended by this instruction. DOE also notes that use of the term

"disabled" in this manner is consistent with the clothes dryer test procedures as amended by the final rule published October 8, 2021.[16] 86 FR 56608.

Regarding consideration of the term "low power mode" as used by IEC 62301, DOE developed its low-power mode definitions and test provisions in the final rule published on October 31, 2012 (77 FR 65941) consistent with the requirements of EPCA. EPCA requires DOE to integrate measures of standby mode and off mode energy consumption into the overall energy efficiency, energy consumption, or other energy descriptor, while considering the most current version of IEC 62301; (42 U.S.C. 6295(gg)(2)(A)). EPCA also requires DOE to ensure that any test procedures shall be reasonably designed to produce test results which measure energy efficiency, energy use or estimated annual operating cost of a covered product or equipment during a representative average use cycle or period of use and shall not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3); 42 U.S.C. 6314(a)(2))

DOE has determined that it would not be appropriate to reference UL 923, which provides requirements for user instructions, as UL suggested. The UL 923 test procedure provisions regarding connected functionality address how to test a product based on the features and capabilities presented on the product and/or information provided in the user instructions. As stated, EPCA requires DOE to establish test procedures that are reasonably designed to produce test results, which measure energy efficiency and energy use during a representative average use cycle or period of use, while being not unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) The purpose of the test procedure is not to impose requirements regarding the consumer operation of a product, or give preference to any specific implementations of connected functionality. Manufacturers can choose

[16] The October 2021 consumer clothes dryers test procedure final rule is available online at: *www.regulations.gov/document/EERE-2014-BT-TP-0034-0039*.

what information to include in the user instructions and the format of these instructions at their own discretion.

In response to the CA IOUs and SNOPR Joint Commenters' comments on connected functions, DOE reiterates that it lacks sufficient data to design a test procedure that measures the energy use associated with connected functions that is representative of average use, as required by EPCA. (See 42 US.C. 6293(b)(3)) DOE reemphasizes that, as stated in the November 2019 NOPR, for a unit that is connected to the internet, the speed and configuration of an internet connection could also impact the energy consumed by the device. 84 FR 61836, 61843. Connected features in microwave ovens are also implemented in a variety of ways across different brands. Further, the design and operation of these features is continuously evolving as the nascent market begins to grow for these products. DOE is not aware of any data available, nor did interested parties provide any such data, regarding the consumer use of connected features. Without such data, DOE cannot establish a representative test configuration for assessing the energy consumption of connected functionality for microwave ovens. Therefore, DOE is finalizing its proposal to require explicitly disabling connected functions, where possible. However, DOE agrees that there are benefits to manufacturers' reporting whether a microwave oven basic model includes connected functions and the status of such functions during testing. As such, in a separate rulemaking DOE may consider changing the certification and reporting requirements for microwave ovens to require manufacturers to provide this information.

In summary, DOE amends section 2.1.1 of appendix I to specify that if the microwave oven can communicate through a network (*e.g.*, Bluetooth® or internet connection), and it is possible to disable that function by means provided in the manufacturer's user manual, the network function must be disabled for the duration of testing. If the network function cannot be disabled, or means for disabling the function

are not provided in the manufacturer's user manual, then the unit must be tested with the network function in the factory default setting or in the as-shipped condition as instructed in Section 5, paragraph 5.2 of IEC 62301 (Second Edition).

E. Integrated Annual Energy Consumption Metric

EPCA requires DOE to incorporate the active mode, standby mode, and off mode energy use values into a single energy use metric, unless it is technically infeasible to do so. (42 U.S.C. 6295(gg)(2)(A)) Because, in the November 2019 NOPR, DOE did not propose an active mode test procedure, which is required when developing a single energy use metric, DOE found that consideration of an integrated metric was technically infeasible and thus moot. Therefore, DOE did not propose to make any changes to the existing metric for microwave oven energy consumption in the November 2019 NOPR. 84 FR 61836, 61843. AHAM supported DOE's proposal to not include an active mode test procedure and thereby maintain the current metric. (AHAM, No. 15 at p. 4) For the aforementioned reasons, DOE maintains the microwave oven energy consumption metric without the introduction of an integrated annual energy consumption metric in this final rule.

F. Section Title and Cross-References

In this final rule, DOE is not adopting the changes proposed in the November 2019 NOPR to correct two cross-references and add a title that distinguishes test procedure provisions by the type of energy supplied. Since the publication of the November 2019 NOPR, DOE also published a test procedure withdrawal rule for cooking products on August 18, 2020 ("August 2020 Withdrawal Rule") that amended appendix I to remove the two cross-references altogether and obviated the need to add a section title that separates test instructions based on the energy supplied. 85 FR 50757.

G. Effective and Compliance Dates

The effective date for the adopted test procedure amendment will be 30 days after publication of this final rule in the *Federal Register*. EPCA prescribes that all representations of energy efficiency and energy use, including those made on marketing materials and product labels, must be made in accordance with an amended test procedure, beginning 180 days after publication of the final rule in the *Federal Register*. (42 U.S.C. 6293(c)(2)) EPCA provides an allowance for individual manufacturers to petition DOE for an extension of the 180-day period if the manufacturer may experience undue hardship in meeting the deadline. (42 U.S.C. 6293(c)(3)) To receive such an extension, petitions must be filed with DOE no later than 60 days before the end of the 180-day period and must detail how the manufacturer will experience undue hardship. (*Id*.)

In the November 2019 NOPR, DOE proposed to remove the introductory note in appendix I which referenced a June 14, 2017, date after which any representations related to energy or power consumption of cooking products must be based upon results generated under the test procedure. As this date had passed, the introductory note was no longer needed.

Since the publication of the November 2019 NOPR, DOE published the August 2020 Withdrawal Rule that also amended appendix I. 85 FR 50757. Among other things, that withdrawal rule amended appendix I to remove the introductory note. 85 FR 50757, 50766.

In this final rule, DOE is adding an introductory note communicating the effective and compliance dates of amendments made in the rule.

H. Test Procedure Costs

In this document, DOE amends the current test procedure for microwave ovens by adding a requirement that clock displays be turned on during testing, notwithstanding the

requirements in section 2.1.1 of appendix I, which references paragraph 5.2 of IEC 62301 (Second Edition). That is, DOE makes the following changes from the current requirements of section 2.1.1 of appendix I: Configure the unit such that the clock display remains on during testing, regardless of manufacturer's instructions or default setting or supplied setting, unless the clock display powers down automatically with no option for the consumer to override this function. DOE also provides specific direction that a unit with a connected function is tested with the connected function disabled during testing, if possible. Since the test procedure as amended by this final rule does not add any substantive changes to the testing process, DOE has determined that it would not result in increased testing costs. DOE also performed a review of microwave ovens currently certified in DOE's Compliance Certification Database ("CCD") and did not find any examples of basic models that would require retesting and recertification as a result of these amendments.

IV. Procedural Issues and Regulatory Review

A. Review Under Executive Order 12866 and 13563

Executive Order ("E.O.") 12866, "Regulatory Planning and Review," as supplemented and reaffirmed by E.O. 13563, "Improving Regulation and Regulatory Review, 76 FR 3821 (Jan. 21, 2011), requires agencies, to the extent permitted by law, to (1) propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs (recognizing that some benefits and costs are difficult to quantify); (2) tailor regulations to impose the least burden on society, consistent with obtaining regulatory objectives, taking into account, among other things, and to the extent practicable, the costs of cumulative regulations; (3) select, in choosing among alternative regulatory approaches, those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity); (4) to the extent feasible, specify performance objectives, rather

than specifying the behavior or manner of compliance that regulated entities must adopt; and (5) identify and assess available alternatives to direct regulation, including providing economic incentives to encourage the desired behavior, such as user fees or marketable permits, or providing information upon which choices can be made by the public. DOE emphasizes as well that E.O. 13563 requires agencies to use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible. In its guidance, the Office of Information and Regulatory Affairs ("OIRA") in the Office of Management and Budget ("OMB") has emphasized that such techniques may include identifying changing future compliance costs that might result from technological innovation or anticipated behavioral changes. For the reasons stated in the preamble, this final regulatory action is consistent with these principles.

Section 6(a) of E.O. 12866 also requires agencies to submit "significant regulatory actions" to OIRA for review. OIRA has determined that this final regulatory action does not constitute a "significant regulatory action" under section 3(f) of E.O. 12866. Accordingly, this action was not submitted to OIRA for review under E.O. 12866.

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq*.) requires preparation of a final regulatory flexibility analysis ("FRFA") for any final rule where the agency was first required by law to publish a proposed rule for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, "Proper Consideration of Small Entities in Agency Rulemaking," 67 FR 53461 (Aug. 16, 2002), DOE published procedures and policies on February 19, 2003 to ensure that the potential impacts of its rules on small entities are properly considered during the DOE rulemaking

process. 68 FR 7990. DOE has made its procedures and policies available on the Office of the General Counsel's website: *energy.gov/gc/office-general-counsel*.

DOE reviewed this final rule under the provisions of the Regulatory Flexibility Act, and the procedures and policies published on February 19, 2003. DOE certifies that this final rule does not have a significant economic impact on a substantial number of small entities. The factual basis for this certification is as follows:

The Small Business Administration ("SBA") considers a business entity to be a small business, if, together with its affiliates, it employs less than a threshold number of workers or earns less than the average annual receipts specified in 13 CFR part 121. The threshold values set forth in these regulations use size standards and codes established by the North American Industry Classification System ("NAICS").[17] The NAICS code for microwave ovens is 335220, major household appliance manufacturing. The SBA sets a threshold of 1,500 employees or fewer for an entity to be considered as a small business for this category.

DOE identified manufacturers using DOE's Compliance Certification Database ("CCD"),[18] the California Energy Commission's Modernized Appliance Efficiency Database System ("MAEDbS"),[19] and prior microwave oven rulemakings. DOE used the publicly available information and subscription-based market research tools (*e.g.,* reports from Dun & Bradstreet[20]) to identify original equipment manufacturers ("OEMs") of the covered product. DOE initially identified 48 distinct companies that manufacture or import microwave ovens. Of these 48 companies, DOE identified 19 OEMs. Of the 19

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[17] The size standards are listed by NAICS code and industry description and are available at: *www.sba.gov/document/support--table-size-standards* (Last accessed on January 10, 2022).
[18] DOE's Compliance Certification Database is available at: *www.regulations.doe.gov/certification-data* (last accessed January 10, 2022).
[19] California Energy Commission's MAEDbS is available at *cacertappliances.energy.ca.gov/Pages/ApplianceSearch.aspx* (last accessed January 10, 2022).
[20] *app.dnbhoovers.com*

OEMs, DOE identified two domestic manufacturers of microwave ovens that met the SBA definition of a "small business."

This final rule amends appendix I by (1) adding the introductory note and (2) adding specifications for the status of network functions and clock displays during testing. The test procedure as amended by this final rule does not add any substantive changes to the testing process. Furthermore, DOE performed a review of microwave ovens currently certified in the CCD and did not find any examples of basic models that would require retesting and recertification as a result of these amendments. Therefore, DOE has determined that the proposed amendments in this final rule would not result in additional testing costs for any manufacturers, including small businesses. For this reason, DOE concludes and certifies that this final rule does not have a significant economic impact on a substantial number of small entities and the preparation of a FRFA is not warranted. DOE has submitted a certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the SBA for review under 5 U.S.C. 605(b).

C. Review Under the Paperwork Reduction Act of 1995

Manufacturers of microwave ovens must certify to DOE that their products comply with any applicable energy conservation standards. To certify compliance, manufacturers must first obtain test data for their products according to the DOE test procedures, including any amendments adopted for those test procedures. DOE has established regulations for the certification and recordkeeping requirements for all covered consumer products and commercial equipment, including microwave ovens. (*See generally* 10 CFR part 429.) The collection-of-information requirement for the certification and recordkeeping is subject to review and approval by OMB under the Paperwork Reduction Act ("PRA"). This requirement has been approved by OMB under OMB control number 1910-1400. Public reporting burden for the certification is estimated to average 35 hours per response, including the time for reviewing instructions,

searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

DOE is not amending the certification or reporting requirements for microwave ovens in this final rule. Instead, DOE may consider proposals to amend the certification requirements and reporting for microwave ovens under a separate rulemaking regarding appliance and equipment certification. DOE will address changes to OMB Control Number 1910-1400 at that time, as necessary.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

D. Review Under the National Environmental Policy Act of 1969

In this final rule, DOE establishes test procedure amendments that it expects will be used to develop and implement future energy conservation standards for microwave ovens. DOE has determined that this rule falls into a class of actions that are categorically excluded from review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq*.) and DOE's implementing regulations at 10 CFR part 1021. Specifically, DOE has determined that adopting test procedures for measuring energy efficiency of consumer products and industrial equipment is consistent with activities identified in 10 CFR part 1021, appendix A to subpart D, A5 and A6. Accordingly, neither an environmental assessment nor an environmental impact statement is required.

E. Review Under Executive Order 13132

Executive Order 13132, "Federalism," 64 FR 43255 (Aug. 4, 1999), imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have federalism implications. The Executive order requires agencies to examine the constitutional and statutory authority supporting any action that

would limit the policymaking discretion of the States and to carefully assess the necessity for such actions. The Executive order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. 65 FR 13735. DOE examined this final rule and determined that it will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. EPCA governs and prescribes Federal preemption of State regulations as to energy conservation for the products that are the subject of this final rule. States can petition DOE for exemption from such preemption to the extent, and based on criteria, set forth in EPCA. (42 U.S.C. 6297(d)) No further action is required by Executive Order 13132.

F. Review Under Executive Order 12988

Regarding the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, "Civil Justice Reform," 61 FR 4729 (Feb. 7, 1996), imposes on Federal agencies the general duty to adhere to the following requirements: (1) eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; (3) provide a clear legal standard for affected conduct rather than a general standard; and (4) promote simplification and burden reduction. Section 3(b) of Executive Order 12988 specifically requires that executive agencies make every reasonable effort to ensure that the regulation (1) clearly specifies the preemptive effect, if any; (2) clearly specifies any effect on existing Federal law or regulation; (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction; (4) specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under

any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires executive agencies to review regulations in light of applicable standards in sections 3(a) and 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, this final rule meets the relevant standards of Executive Order 12988.

G. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 ("UMRA") requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. Pub. L. 104-4, sec. 201 (codified at 2 U.S.C. 1531). For a regulatory action resulting in a rule that may cause the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector of $100 million or more in any one year (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish a written statement that estimates the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a), (b)) The UMRA also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and Tribal governments on a proposed "significant intergovernmental mandate," and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA. 62 FR 12820; also available at *energy.gov/gc/office-general-counsel*. DOE examined this final rule according to UMRA and its statement of policy and determined that the rule contains neither an intergovernmental mandate, nor a mandate that may result in the expenditure of $100 million or more in any year, so these requirements do not apply.

H. Review Under the Treasury and General Government Appropriations Act, 1999

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. 105-277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. This final rule will not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

I. Review Under Executive Order 12630

DOE has determined, under Executive Order 12630, "Governmental Actions and Interference with Constitutionally Protected Property Rights" 53 FR 8859 (March 18, 1988), that this regulation will not result in any takings that might require compensation under the Fifth Amendment to the U.S. Constitution.

J. Review Under Treasury and General Government Appropriations Act, 2001

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516 note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. OMB's guidelines were published at 67 FR 8452 (Feb. 22, 2002), and DOE's guidelines were published at 67 FR 62446 (Oct. 7, 2002). Pursuant to OMB Memorandum M-19-15, Improving Implementation of the Information Quality Act (April 24, 2019), DOE published updated guidelines which are available at *www.energy.gov/sites/prod/files/2019/12/f70/DOE%20Final%20Updated%20IQA%20Guidelines%20Dec%202019.pdf*. DOE has reviewed this final rule under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

K. Review Under Executive Order 13211

Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," 66 FR 28355 (May 22, 2001), requires

Federal agencies to prepare and submit to OMB, a Statement of Energy Effects for any significant energy action. A "significant energy action" is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that (1) is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (3) is designated by the Administrator of OIRA as a significant energy action. For any significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use if the regulation is implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use.

This regulatory action is not a significant regulatory action under Executive Order 12866. Moreover, it would not have a significant adverse effect on the supply, distribution, or use of energy, nor has it been designated as a significant energy action by the Administrator of OIRA. Therefore, it is not a significant energy action, and, accordingly, DOE has not prepared a Statement of Energy Effects.

L. Review Under Section 32 of the Federal Energy Administration Act of 1974

Under section 301 of the Department of Energy Organization Act (Pub. L. 95–91; 42 U.S.C. 7101), DOE must comply with section 32 of the Federal Energy Administration Act of 1974, as amended by the Federal Energy Administration Authorization Act of 1977. (15 U.S.C. 788; "FEAA") Section 32 essentially provides in relevant part that, where a proposed rule authorizes or requires use of commercial standards, the notice of proposed rulemaking must inform the public of the use and background of such standards. In addition, section 32(c) requires DOE to consult with the Attorney General and the Chairman of the Federal Trade Commission ("FTC") concerning the impact of the commercial or industry standards on competition.

The adopted modifications to the test procedure for microwave ovens in this final rule do not incorporate any new commercial standard. DOE has previously consulted with both the Attorney General and the Chairman of the FTC about the impact on competition of the incorporation by reference of IEC 62301 (First Edition) and IEC 62301 (Second Edition) in appendix I to subpart B of part 430 and received no comments objecting to their use. There are no changes to the incorporation in this final rule.

M. Congressional Notification

As required by 5 U.S.C. 801, DOE will report to Congress on the promulgation of this rule before its effective date. The report will state that it has been determined that the rule is not a "major rule" as defined by 5 U.S.C. 804(2).

N. Description of Materials Incorporated by Reference

In this final rule, DOE does not incorporate by reference any new industry standard. The incorporation by reference of IEC 62301 (First Edition) and IEC 62301 (Second Edition) in appendix I to subpart B of part 430 has already been approved by the Director of the Federal Register and there are no changes to the incorporation in this final rule.

V. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this final rule.

List of Subjects in 10 CFR Part 430

Administrative practice and procedure, Confidential business information, Energy conservation, Household appliances, Imports, Incorporation by reference, Intergovernmental relations, Small businesses.

Signing Authority

This document of the Department of Energy was signed on March 23, 2022, by Kelly J. Speakes-Backman, Principal Deputy Assistant Secretary for Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy.

That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on March 23, 2022

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Treena V. Garrett
Federal Register Liaison Officer,
U.S. Department of Energy

For the reasons stated in the preamble, DOE amends part 430 of chapter II of title 10, Code of Federal Regulations as set forth below:

PART 430 -- ENERGY CONSERVATION PROGRAM FOR CONSUMER PRODUCTS

1. The authority citation for part 430 continues to read as follows:

Authority: 42 U.S.C. 6291-6309; 28 U.S.C. 2461 note.

2. Appendix I to subpart B of part 430 is amended by:

a. Adding an introductory note; and

b. Revising section 2.1.1;

The addition and revision read as follows:

Appendix I to Subpart B of Part 430–Uniform Test Method for Measuring the Energy Consumption of Cooking Products

Note: After **[INSERT DATE 180 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**, representations made with respect to the energy use of microwave ovens must fairly disclose the results of testing pursuant to this appendix. On or after [**INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER***] and prior to [**INSERT DATE 180 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER***] representations, including compliance certifications, made with respect to the energy use of microwave ovens must fairly disclose the results of testing pursuant to either this appendix or appendix I as it appeared at 10 CFR part 430, subpart B, in the 10 CFR parts 200 to 499 edition revised as of January 1, 2020. Representations made with respect to the energy use of microwave ovens within that range of time must fairly disclose the results of testing under the selected version. Given that after [**INSERT DATE 180 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]** representations with respect to the energy use of microwave ovens must be made in accordance with tests conducted

pursuant to this appendix, manufacturers may wish to begin using this test procedure as soon as possible.

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2.1.1 *Microwave ovens, excluding any microwave oven component of a combined cooking product.* Install the microwave oven in accordance with the manufacturer's instructions and connect to an electrical supply circuit with voltage as specified in section 2.2.1 of this appendix. Install the microwave oven in accordance with Section 5, Paragraph 5.2 of IEC 62301 (Second Edition) (incorporated by reference; see §430.3), disregarding the provisions regarding batteries and the determination, classification, and testing of relevant modes. If the microwave oven can communicate through a network (*e.g.*, Bluetooth® or internet connection), disable the network function, if it is possible to disable it by means provided in the manufacturer's user manual, for the duration of testing. If the network function cannot be disabled, or means for disabling the function are not provided in the manufacturer's user manual, test the microwave oven with the network function in the factory default setting or in the as-shipped condition as instructed in Section 5, paragraph 5.2 of IEC 62301 (Second Edition). Configure the unit such that the clock display remains on during testing, regardless of manufacturer's instructions or default setting or supplied setting, unless the clock display powers down automatically with no option for the consumer to override this function. Install a watt meter in the circuit that meets the requirements of section 2.8.1.2 of this appendix.

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